In the Claims

Please amend the claims as follows:

1. (Currently amended) A method to ~~identify~~ determine or detect an agent that alters adeno-associated virus (AAV) transduction of a mammalian cell, comprising:
a) contacting the mammalian cell with an agent and virus; and
b) detecting or determining whether the agent ~~alters viral transduction, wherein the agent~~ alters transduction after viral binding to ~~receptors~~ the cell membrane and before synthesis to an expressible form of the viral genome.

2. (Currently amended) The method of claim 1 or 87 wherein the cell is a mammalian lung cell.

3. (Currently amended) The method of claim 1 or 87 wherein the cell is a mammalian liver cell.

4. (Currently amended) The method of claim 1 or 87 wherein the cell is a human cell, canine cell, murine cell, rat cell or rabbit cell.

5. (Currently amended) The method of claim 1 or 87 wherein the transduction is enhanced.

6. (Currently amended) The method of claim 1 or 87 wherein the agent enhances endosomal processing.

7. (Currently amended) The method of claim 1 or 87 wherein the agent is an endosomal protease inhibitor.

8. (Original) The method of claim 7 wherein the agent is a cysteine protease inhibitor.

9. (Currently amended) The method of claim 1 or 87 wherein the agent is a peptide or analog thereof.

10. (Currently amended) The method of claim 1 or 87 wherein the virus is recombinant adeno-associated virus.

11. (Original) The method of claim 10 wherein the recombinant virus encodes a therapeutic peptide or polypeptide.

12. (Previously amended) The method of claim 10 wherein the recombinant virus comprises a marker gene that is detectable or selectable.

13-28. (Cancelled)

29. (Currently amended) The method of claim 1~~, 13, 14, 15, 16~~ or ~~17,~~ 87 wherein the agent is a.compound of formula (I): R_1-A-$(B)_n$-C wherein R_1 is an N-terminal amino acid blocking group; each A and B is independently an amino acid; C is an amino acid wherein the terminal carboxy group has been replaced by a formyl (CHO) group; and n is 0, 1, 2, or 3; or a pharmaceutically acceptable salt thereof.

30. (Original) The method of claim 29 wherein R_1 is $(C_1$-$C_{10})$alkanoyl.

31. (Original) The method of claim 29 wherein R_1 is acetyl or benzyloxycarbonyl.

32. (Original) The method of claim 29 wherein each A and B is independently alanine, arginine, glycine, isoleucine, leucine, valine, nor-leucine or nor-valine.

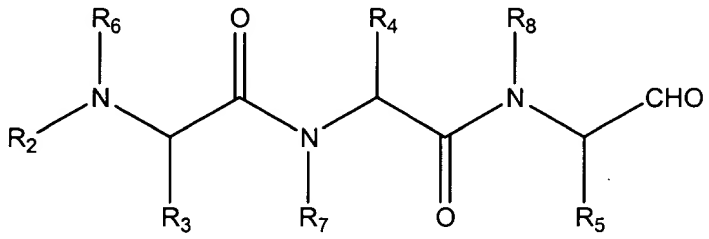
33. (Original) The method of claim 29 wherein each A and B is isoleucine.

34. (Original) The method of claim 29 wherein C is alanine, arginine, glycine, isoleucine, leucine, valine, nor-leucine or nor-valine, wherein the terminal carboxy group has been replaced by a formyl (CHO) group.

35. (Original) The method of claim 29 wherein C is nor-leucine or nor-valine, wherein the terminal carboxy group has been replaced by a formyl (CHO) group.

36. (Original) The method of claim 29 wherein R_1 is (C_1-C_{10})alkanoyl or benzyloxycarbonyl; A and B are each isoleucine; C is nor-leucine or nor-valine, wherein the terminal carboxy group has been replaced by a formyl (CHO) group; and N is 1.

37. (Currently amended) The method of claim 1~~, 13, 14, 15, 16~~ or ~~17~~or 87 wherein the agent is a compound of formula (II):



(II)

wherein

R_2 is an N-terminal amino acid blocking group;

R_3, R_4, and R_5 are each independently hydrogen, (C_1-C_{10})alkyl, aryl or aryl(C_1-C_{10})alkyl; and

R_6, R_7, and R_8 are each independently hydrogen, (C_1-C_{10})alkyl, aryl or aryl(C_1-C_{10})alkyl; or a pharmaceutically acceptable salt thereof.

38. (Original) The method of claim 37 wherein R_2 is (C_1-C_{10})alkanoyl.

39. (Original) The method of claim 37 wherein R_2 is acetyl or benzyloxycarbonyl.

40. (Original) The method of claim 37 wherein R_3 is hydrogen or (C_1-C_{10})alkyl.

41. (Original) The method of claim 37 wherein R_3 is 2-methylpropyl.

42. (Original) The method of claim 37 wherein R_4 is hydrogen or (C_1-C_{10})alkyl.

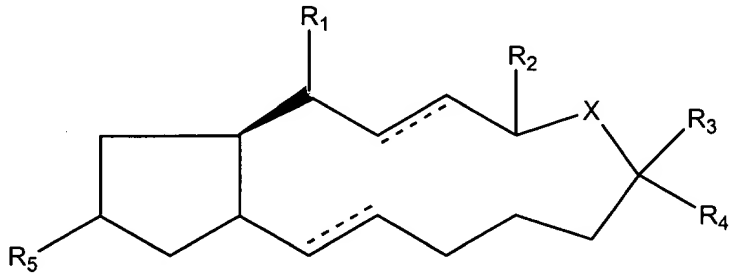
43. (Original) The method of claim 37 wherein R_4 is 2-methylpropyl.

44. (Original) The method of claim 37 wherein R_5 is hydrogen or (C_1-C_{10})alkyl.

45. (Original) The method of claim 37 wherein R_5 is butyl or propyl.

46. (Original) The method of claim 37 wherein R_2 is acetyl or benzyloxycarbonyl; R_3 and R_4 are each 2-methylpropyl; R_5 is butyl or propyl; and R_6, R_7, and R_8 are each independently hydrogen.

47. (Currently amended) The method of claim 1~~, 13, 14, 15, 16~~ or ~~17~~ 87 wherein the agent is a compound of formula (III):



(III)

wherein

R_1 is H, halogen, (C_1-C_{10})alkyl, (C_1-C_{10})alkenyl, (C_1-C_{10})alkynyl, (C_1-C_{10})alkoxy, (C_1-C_{10})alkanoyl, (=O), (=S), OH, SR, CN, NO_2, trifluoromethyl or (C_1-C_{10})alkoxy, wherein any alkyl, alkenyl, alkynyl, alkoxy or alkanoyl may optionally be substituted with one or more

halogen, OH, SH, CN, NO_2, trifluoromethyl, NRR or SR, wherein each R is independently H or $(C_1$-$C_{10})$alkyl;

R_2 is (=O) or (=S);

R_3 is H, $(C_1$-$C_{10})$alkyl, $(C_1$-$C_{10})$alkenyl, $(C_1$-$C_{10})$alkynyl, $(C_1$-$C_{10})$alkoxy or $(C_3$-$C_8)$cycloalkyl, wherein any alkyl, alkenyl, alkynyl, alkoxy or cycloalkyl may optionally be substituted with one or more halogen, OH, CN, NO_2, trifluoromethyl, SR, or NRR, wherein each R is independently H or $(C_1$-$C_{10})$alkyl;

R_4 is H, $(C_1$-$C_{10})$alkyl, $(C_1$-$C_{10})$alkenyl, $(C_1$-$C_{10})$alkynyl, $(C_1$-$C_{10})$alkoxy or $(C_3$-$C_8)$cycloalkyl, wherein any alkyl, alkenyl, alkynyl, alkoxy or cycloalkyl may optionally be substituted with one or more halogen, OH, CN, NO_2, trifluoromethyl, SR, or NRR, wherein each R is independently H or $(C_1$-$C_{10})$alkyl;

R_5 is H, halogen, $(C_1$-$C_{10})$alkyl, $(C_1$-$C_{10})$alkenyl, $(C_1$-$C_{10})$alkynyl, $(C_1$-$C_{10})$alkoxy, $(C_1$-$C_{10})$alkanoyl, (=O), (=S), OH, SR, CN, NO_2 or trifluoromethyl, wherein any alkyl, alkenyl, alkynyl, alkoxy or alkanoyl may optionally be substituted with one or more halogen, OH, SH, CN, NO_2, trifluoromethyl, NRR or SR, wherein each R is independently H or $(C_1$-$C_{10})$alkyl; and

X is O, S or NR wherein R is H or $(C_1$-$C_{10})$alkyl, or a pharmaceutically acceptable salt thereof.

48. (Original) The method of claim 47 wherein R_1 is halogen, CN, NO_2, trifluoromethyl or OH.

49. (Original) The method of claim 47 wherein R_1 is OH.

50. (Original) The method of claim 47 wherein R_2 is (=O).

51. (Original) The method of claim 47 wherein R_3 is H or $(C_1$-$C_{10})$alkyl.

52. (Original) The method of claim 47 wherein R_3 is methyl.

53. (Original) The method of claim 47 wherein R_4 is H or (C_1-C_{10})alkyl.

54. (Original) The method of claim 47 wherein R_4 is H.

55. (Original) The method of claim 47 wherein R_5 is halogen, CN, NO_2, trifluoromethyl or OH.

56. (Original) The method of claim 47 wherein R_5 is OH.

57. (Original) The method of claim 47 wherein X is O or S.

58. (Original) The method of claim 47 wherein X is O.

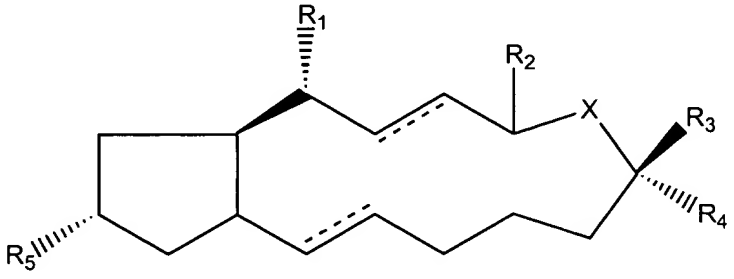
59. (Original) The method of claim 47 wherein both ----- are a single bond.

60. (Original) The method of claim 47 wherein one ----- is a double bond.

61. (Original) The method of claim 47 wherein both ----- are a double bond.

62. (Original) The method of claim 45 wherein R_1 is OH, R_2 is (=O), R_3 is methyl, R_4 is H, R_5 is OH, X is O, and both ----- are a double bond.

63. (Previously amended) The method of claim 47 wherein the compound is a compound of formula (III):



III

64. (Original) The method of claim 63 wherein R_1 is halogen, CN, NO_2, trifluoromethyl or OH.

65. (Original) The method of claim 63 wherein R_1 is OH.

66. (Original) The method of claim 63 wherein R_2 is (=O).

67. (Original) The method of claim 63 wherein R_3 is H or (C_1-C_{10})alkyl.

68. (Original) The method of claim 63 wherein R_3 is methyl.

69. (Original) The method of claim 63 wherein R_4 is H or (C_1-C_{10})alkyl.

70. (Original) The method of claim 63 wherein R_4 is H.

71. (Original) The method of claim 63 wherein R_5 is halogen, CN, NO_2, trifluoromethyl or OH.

72. (Original) The method of claim 63 wherein R_5 is OH.

73. (Original) The method of claim 63 wherein X is O or S.

74. (Original) The method of claim 63 wherein X is O.

75. (Original) The method of claim 63 wherein both ----- are a single bond.

76. (Original) The method of claim 63 wherein one ----- is a double bond.

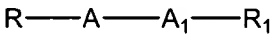
77. (Original) The method of claim 63 wherein both ----- are a double bond.

78. (Original) The method of claim 63 wherein R_1 is OH, R_2 is (=O), R_3 is methyl, R_4 is H, R_5 is OH, X is O, and both ----- are a double bond.

79. (Currently amended) The method of claim 1~~, 13, 14, 15, 15~~ or ~~17~~ 87 wherein the agent inhibits the activation of ubiquitin, the transfer of ubiquitin to the ubiquitin carrier protein, ubiquitin ligase, or a combination thereof.

80. (Currently amended) The method of claim 1~~, 13, 14, 15, 15~~ or ~~17~~ 87 wherein the agent inhibits ubiquitin ligase.

81. (Currently amended) The method of claim 1~~, 13, 14, 15, 15~~ or ~~17~~ 87 wherein the agent is a compound of formula (IV):



wherein R is hydrogen, an amino acid, or a peptide, wherein the N-terminus amino acid can optionally be protected at the amino group with acetyl, acyl, trifluoroacetyl, or benzyloxycarbonyl; A is an amino acid or a direct bond; A_1 is an amino acid; and R_1 is hydroxy or an amino acid, wherein the C-terminus amino acid can optionally be protected at the carboxy group with $(C_1\text{-}C_6)$alkyl, phenyl, benzyl ester or amide (e.g., $C(=O)NR_2$, wherein each R is independently hydrogen or $(C_1\text{-}C_6)$alkyl);

or a pharmaceutically acceptable salt thereof.

82. (Original) The method of claim 81 wherein the agent is H-Leu-Ala-OH, H-His-Ala-OH, or a combination thereof.

83. (Currently amended) The method of claim 1~~, 13, 14, 15, 16~~ or ~~17,~~ 87 further comprising administering a second agent that enhances the activity of the agent.

84. (Original) The method of claim 83 wherein the second agent is EGTA.

85. (Currently amended) The method of claim 1 or 87 wherein the agent is an ubiquitin ligase inhibitor.

86. (Currently amended) The method of claim 1 or 87 wherein the agent alters endosomal processing.

87. (New) A method to identify an agent that alters adeno-associated virus (AAV) transduction of a mammalian cell, comprising:
a) contacting the mammalian cell with an agent and virus;
b) detecting or determining whether the agent alters viral transduction; and
c) identifying whether the agent alters transduction after viral binding to the cell membrane and before synthesis to an expressible form of the viral genome.